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# TEACHER-STUDENT COLLABORATION: CHALLENGES AND OPPORTUNITIES

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***Abstract.** Collaborative learning is meant to benefit agents of education due to the fact that it could sharpen skills in collaboration (remote collaboration) as a process of cooperation to accomplish objectives by combining mutual efforts in the dialogue and interaction to eventually get results for all the participants of the process. The paper analyzes the essence of collaborative learning, theoretical perspectives on collaboration in educational process and CL benefits. The study examines collaborative learning classroom. The discussion focuses on challenges and opportunities in collaborative learning.*

**Keywords:** collaborative learning, remote collaboration, classroom instruction, teacher-student collaborative interaction.

## INTRODUCTION

Collaborative learning is meant to benefit agents of education due to the fact that it could sharpen skills in collaboration (remote collaboration) as a process of cooperation to accomplish objectives by combining mutual efforts in the dialogue and interaction to eventually get results for all the participants of the process. Therefore, it is important to implement collaborative techniques for classroom (virtual classroom) instructions. Quality education is supposed to be promoted and facilitated by effective collaborative communication.

Collaboration is commonly defined as the act or process of working with another person or group of people to create or produce something; a piece of work produced by two or more people or groups of people working together (OD 2015),

united labour, co-operation; especially in literary, artistic or scientific work.” (OED 2015), “To work jointly with others or together especially in an intellectual endeavor.” (WTID 1993).

In education and business coaching collaboration is referred to as two or more people working together to accomplish some objective, to achieve shared goals (Boston KM, 2014)

It is a recursive (Marinez-Moyano 2006) process where two or more people or organizations work together to realize shared goals, (this is more than the intersection of common goals seen in co-operative ventures, but a deep, collective determination to reach an identical objective) by sharing knowledge, learning and building consensus. Structured methods of collaboration encourage introspection of behaviour and communication (Spence 2006).

In this paper we discuss the changes in teacher-student roles and places in educational process that have occurred due to collaboration in education. The purpose of the article is to investigate the challenges and opportunities of collaborative learning in order to reveal how beneficial it is for stakeholders of education.

## **1. THE ESSENCE OF COLLABORATIVE LEARNING**

The concept of collaborative learning (CL), the grouping and pairing of students for the purpose of achieving an academic goal, has been widely researched throughout the professional literature. The term "collaborative learning" refers to an instruction method in which students at various performance levels work together in small groups toward a common goal. The students are responsible for one another's learning as well as their own.

Thus, the success of one student helps other students to be successful (Gokhale 1995). Proponents of collaborative learning claim that the active exchange of ideas within small groups not only increases interest among the participants but also promotes critical thinking. According to Johnson and Johnson (1986), there is persuasive evidence that cooperative teams achieve at higher levels of thought and retain information longer than students who work quietly as individuals. The shared learning gives students an opportunity to engage in discussion, take responsibility for their own learning, and thus become critical thinkers (Totten, Sills, Digby & Russ 1991).

Collaborative learning is considered by Panitz (1999) as a personal philosophy, not just a classroom technique. In all situations when people come together in groups, it suggests a way of dealing with people respecting and highlighting individual group members' abilities and contributions. There is shared authority, as well as accepted responsibility, among group members for the group actions. The underlying premise of collaborative learning is based upon consensus building

through cooperation by group members, in contrast to competition in which individuals best other group members. CL practitioners apply this philosophy in the classroom, at committee meetings, with community groups, within their families and generally as a way of living with and dealing with other people.

### **1.1. Collaborative Learning Benefits**

While elaborating student collaboration tasks, it is essential to understand the CL academic, social, psychological and assessment benefits (Johnson & Johnson 1989). Nelson-Le Gall (1992) captures the nature of cooperative learning when she states "Learning and understanding are not merely individual processes supported by the social context; rather they are the result of a continuous, dynamic negotiation between the individual and the social setting in which the individual's activity takes place. Both the individual and the social context are active and constructive in producing learning and understanding" (p.52).

Fogarty and Bellanca (1992) highlight the reaction that teachers have after they implement cooperative learning paradigms when they state, "Surprisingly and almost unfailingly, once the philosophical shift begins, once teachers begin implementing cooperative interactions, the evidence of student motivation becomes so overwhelmingly visible that teachers are encouraged to try more. The momentum builds for both teachers and students, and before long the "new school lecture" becomes the norm in the classroom. By then, the novelty of the models is no longer the challenge. The challenge becomes choosing the most appropriate interactive designs for the target lesson; it is choosing a design in which the final focus rests on the learner, not on the lecturer". (p.84). They evolve their belief to point out that "the skillful teacher introduces increasingly engaging interactive models over time. As students become more adept in their social skills, the models are selected strictly for appropriateness. Initially, however, the models are subtly slotted into the lessons to familiarize students with the different interactions and to lead them toward involvement in the learning situation". (p.86)

### **1.2. Theoretical Perspectives on Collaboration**

In 1996, Robert Slavin described a variety of perspectives on peer learning, including social-psychological, sociocultural, cognitive-developmental, and cognitive-elaboration approaches. Explanations of how and what peers can learn from one another differ. Angela O'Donnell and James O'Kelly (1994) note that classroom decisions a teacher makes in relation to cooperative or collaborative learning depend on the theoretical approach adopted. Social-psychological approaches suggest that the interdependence among group members is the underlying mechanism for effective cooperation. Interdependence is created by using group rewards or by encouraging social cohesion and a norm of caring and helpfulness. From a cognitive-developmental perspective, effective peer learning occurs as a result of processes of cognitive conflict and resolution, or through the modeling of skilled behaviour.

As Weiser (Weiser 1991: 94) stated, “the most profound technologies are those that disappear”. He was the first scholar to define ubiquitous computing as an environment where the computer is integral but embedded into the background of daily life. Applying this concept to the education field, electronic learning (e-learning), or more specifically ubiquitous learning (u-learning) involves learning in an environment where “all students have access to a variety of digital devices and services, including computers connected to the Internet and mobile computing devices, whenever and wherever they need them” (van’t Hooft, Swan, Cook & Lin 2007: 6).

In the education field, “ubiquitous computing allows us to envision a classroom in which the teacher remains focused on his or her field of expertise (e.g., math or social studies) while still utilizing technology to enhance student learning” (Crowe 2007: 129). If information is to be used in multiple contexts, then we must ensure multiple contexts learning strategies and ensure that students can widely use the educational information materials. Proceeding from the foregoing, it is possible to formulate some theses to be used in the implementation of innovative educational technologies and e-learning which didactics is created in nowadays:

(1) Learning should be an active process. Active process is to provide students with tasks for using information in practical situations. This information may be in a single learning environment of the institution and created by all players.

(2) Students must construct their own knowledge instead of personal perception without converting the data from teachers; students should be active participants in filling the educational space of the institution.

(3) The joint and cooperative learning must be implemented. Teamwork is a life experience of students to work in groups and allows using successes of other students and to learn from them.

(4) Students are required to provide the ability to control the learning process. This is possible by using formative assessment ideas – most MOOC use peer-to-peer evaluation technology.

(5) Students should be given time to think and for retrospective analysis of their activity (reflection). Such reflection is desirable to be constant and open.

(6) Students should feel that learning has a personal meaning for them. So it is useful for study materials to contain examples that are close to the interests of students and curious as additional information and take into account their individual needs and learning dominating styles.

(7) Learning should be interactive in order to ensure a high level and social significance. Training is an extension of the space of new knowledge, skills,

and relationships with referring to data bases and use resource of educational environment, including electronic.

(8) The learning space formed by a teacher consists of the following components: activity, constructive cooperation, collaboration, commitment, complexity, content, communicativeness, reflexivity.

Of all the educational paradigms under consideration, e-learning relies almost exclusively on collaboration as an educational template, skills formation and assessment tool and ultimate objective.

Forms of collaboration are comprised of 2 groups:

- (1) Relationship oriented: Affinity networks, Learning communities
- (2) Task oriented: Communities of Practice, Project Communities

Needs of collaboration in an open e-learning environment include the following issues:

- sharing information and documents
- collaboration across physical locations
- sharing creation and access to work products
- identifying and accessing external experts and resources
- classroom with easy-to-use tools
- document repository
- management tools, including scheduling and task management
- lists, tables, rosters, tasks, score cards
- communication tools, including e-mail, discussions, conferencing, voting.

A sociocultural perspective would suggest that the joint knowledge of the group members is greater than the individual knowledge of any member and that the group operates as an interacting system. In contrast, a cognitive-elaboration approach suggests that collaboration enhances student learning by providing a context in which individual learning is promoted by the use of more effective learning processes. In other words, an individual learns better with a peer because the peer provides an audience, prompts more metacognition, or maintains an individual's focus on a task. In creating and using collaborative groups for instructional purposes, teachers' decisions about the size and composition of groups, the kinds of tasks on which students will work, whether or not they should use explicit rewards, and the particular stance to take in relation to the collaborative groups will be influenced by the theoretical perspective that the teachers adopt.

## 2. COLLABORATIVE LEARNING CLASSROOM

Tinzmann, Jones, Fennimore, Bakker, Fine, and Pierce (1990) worked out four general characteristics of collaborative classrooms:

1. Shared knowledge among teachers and students.
2. Shared authority among teachers and students.
3. Teachers as mediators.
4. Heterogeneous groupings of students.

The first two capture changing relationships between teachers and students. The third characterizes teachers' new approaches to instruction. The fourth addresses the composition of a collaborative classroom.

Thus, shared knowledge and authority, mediated learning, and heterogeneous groups of students are essential characteristics of collaborative classrooms. These characteristics, which are elaborated below, necessitate new roles for teachers and students that lead to interactions different from those in more traditional classrooms. In a collaborative classroom, teachers are defining their roles in terms of mediating learning through dialogue and collaboration; facilitating to create rich environments and activities for linking new information to prior knowledge, providing opportunities for collaborative work and problem solving, and offering students a multiplicity of authentic learning tasks; modeling to share with students not only what one is thinking about the content to be learned, but also the process of communication and collaborative learning, which may involve thinking aloud (sharing thoughts about something) or demonstrating (showing students how to do something in a step-by-step fashion); and coaching as giving hints or cues, providing feedback, redirecting students' efforts, and helping them use a strategy. A major principle of coaching is to provide the right amount of help when students need it—neither too much nor too little so that students retain as much responsibility as possible for their own learning. (Tinzmann et al, 1990).

Regarding student roles in a collaborative classroom, the two major roles of students that are of crucial importance are collaborator and active participator with focusing on goal setting, designing, learning tasks and monitoring, which is closely connected with self-regulated learning and formative self-assessment. Interactions in a collaborative classroom occurs in the form of dialogue, which can trigger challenges and conflict to arise. Students need opportunities to move about, talk, ask questions, and so on. However, students should accept the parameters within which they make their choices. It is essential that rules and standards should be stressed from the beginning.

### **3. CHALLENGES AND OPPORTUNITIES IN COLLABORATIVE LEARNING**

Traditional classrooms have been turning into collaborative classrooms, since educational systems have been responding to the changes in their environment. Yet, there have been tough resistance from those who fear they cannot fit a new education paradigm based more on collaboration than authority. Nevertheless, new challenges create new opportunities that are beneficial for all stakeholders of education.

Among the challenges, we would like to point out the following issues:

- 1) being an efficient mediator, facilitator, coach and, sometimes, mentor, teachers need constant practicing in sharpening their skills in advanced methods of training and technology for education;
- 2) elaborating student collaboration tasks might not be a simple task because to be a collaborator all the participants are supposed to be acquiring transferable skills and to be open enough to allow their dialogue to happen, which is quite difficult for the representatives of the utilitarian education model with its steep hierarchy and command principles;
- 3) scarce technological resources lead to time-consuming activities with poor performance and a low level of satisfaction;
- 4) shared responsibility for collaborative activities might cause conflicts among the participants of collaborative learning, which, in its turn, might decrease motivation and create unhealthy competition and bullying.

The opportunities that are created by teacher-student collaboration include:

- 1) narrowing generation gaps due to constant dialogue that smoothenes the differences and facilitates tolerance to alternative values and differences (being different does not mean to be opposite any longer, for being different means to be good at something else which can be combined with the strengths of others to produce a synergic effect or it can shrink weaknesses with some new unknown knowledge and skills);
- 2) multilevel interaction shows on practice the efficiency of different methods, techniques, tools and instruments, which allows to get rid of the ones that do not meet the requirements of modern interactions much quicker;
- 3) alternative sources of information help keep curricula updated;
- 4) as soon as the teacher is not the sole source of knowledge and understanding, students disclose their potential easier, because they do not need a permission for their teacher to be the way they are expected to be;



- 5) multiple sources of information facilitate creating skills in information verification, thus, in personal responsibility for decreasing information pollution and wastes;
- 6) democratic nature of collaborative learning contributes to the formation of democratic principles and values, which are necessary for democratic society to soundly function;
- 7) personification of agents of education, as well as their equal collaboration and mutual responsibility, prevents from corrupted practices;
- 8) empathy facilitated by collaborative learning reduces the level of social tension;
- 9) quality education is ensured by non-stop dialogue with real-time feedback that gives an opportunity to cost-efficient methods of regulation and administration of educational processes.

#### **4. MODULE ON REMOTE COLLABORATION**

To facilitate collaborative learning, higher educational establishments should implement new curriculum for their stakeholders to stay informed and educated regarding the requirements of ongoing social processes. The BGKU and US researchers have been designing a Module on Remote collaboration in framework WP4 of IRNet Project (<http://www.us.edu.pl>), which is based on the scientific findings and recommendations to exploit educational resources the fullest. The Module on Remote Collaboration focuses on the basic idea that students, who will come of age in the 21<sup>st</sup> century, need to be taught different skills than those learned by students in the 20<sup>th</sup> century, and that the skills they learn should reflect the specific demands that will be placed upon them in a complex, competitive, knowledge-based, information-age, technology-driven economy and society. Transferable skills are substantial for agent of education under globalization and integration. Module is designed for educators, administrators and managers for them to be able to understand the concept of collaboration and to implement collaborative learning procedures. The outcomes of the Module on Remote Collaboration are knowledge and skills in collaborating under conditions of geographically dispersed teams, global information sharing across time zones and physical locations with adequate resource identification and allocation. The researchers have created a MOOC for the students to learn how to organize their workplace with easy-to-use tools, document repository, management and communication tools. The main emphasis is put on an access to the latest team resources, any time, any place to ensure participation in asynchronous, threaded discussions.

The Module introduces collaborative techniques via collaborative learning in collaborative classroom (virtual collaborative classroom). The elaboration of

student collaboration tasks is carried out considering the following forms of interactions for collaborative classroom instruction (Table 1):

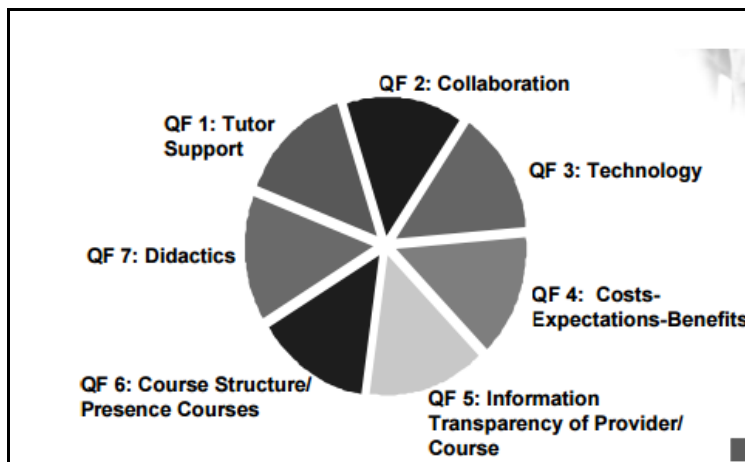
**Table 1.**

**Forms of Interactions for Collaborative Classroom Instruction**

Same Time, Same Place	Same Time, Different Place
<ul style="list-style-type: none"> <li>- Discussion</li> <li>- Brain storm</li> <li>- Communicative skills</li> <li>- Access to documents</li> <li>- Access to educator</li> <li>- Polling</li> <li>- Project/task management</li> <li>- Rosters of multiple types</li> <li>- Calendaring/scheduling</li> </ul>	<ul style="list-style-type: none"> <li>- Lecture</li> <li>- Discussion</li> <li>- Workshop</li> <li>- Research task</li> <li>- Tutoring</li> <li>- Conference</li> <li>- File sharing</li> <li>- Resources</li> </ul>
Different Time, Same Place	Different Time, Different Place
<ul style="list-style-type: none"> <li>- Resource</li> <li>- Control</li> </ul>	<ul style="list-style-type: none"> <li>- Message exchange</li> <li>- Review</li> <li>- Assessment</li> <li>- Resources</li> </ul>

*Source: Own research*

Meeting the requirements for ensuring quality education, the Module on Remote Collaboration provides information on the model of quality requirements and collaboration (Figure 1.)



**Figure 1. Model of Subjective Quality Requirements**

*Source: Ehlers (2003)*

The content of the Module on Remote Collaboration (Table 2) is supposed to become a constituent part of the normative curriculum of the academic staff advanced certification training.

**Table 2.**

**Topics of Module on Remote Collaboration**

Module on Remote Collaboration	Topics
Topic 1	Effective Collaboration and Its Assessment Criteria
Topic 2	ICT Tools for Collaboration
Topic 3	Elaboration of Collaborative Learning Tasks for Student Collaboration
Topic 4	ICT Collaboration Tools for e-Education

*Source: Morze, Makhachashvili (forthcoming)*

## CONCLUSIONS

Quality education is supposed to be promoted and facilitated by effective collaborative communication. Collaborative education favours adjustments of curriculum objectives with wants and needs of agents of education, which should lead to improvements in educational systems for them to be responsive to real-time requirements. It should be stressed that collaborative communication significantly changes the roles of students and educators because it brings in flattened hierarchical structure of educational interaction. Consequently, this shift from the authoritative pattern of knowledge transfer to the democratic one of knowledge

sharing requires definite understanding of the principles of elaboration of student collaboration tasks for all agents of education to clearly understand their roles and what is expected from them.

To facilitate collaboration learning, advanced experience of the teachers who have already created engaging units and activities for collaborative classroom instruction should be dispersed to involve agents and stakeholders of education into designing, working out and implementing collaborative learning curricula and incentives for educators. Collaborative learning is based on creating learning tasks that encourage diversity, but which aim at high standards of performance for all students. These tasks involve students in high-level thought processes such as decision making and problem solving that are best accomplished in collaboration. These tasks enable students to make connections to real-world objects, events, and situations in their own and an expanded world, and tap their diverse perspectives and experiences in order to obtain transferable skills and to be competitive on the labour market with a possibility of enjoying high quality of life by doing what they want and getting what they need.

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